

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-014515**Date Inspected:** 03-Jun-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1100**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girders**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

A). Field Splice W1/W2

B). Field Splice W4/W5

A). Field Splice W1/W2

The QAI observed the Ultrasonic Testing (UT) of two (2) R1 weld repairs on the side plate field splice identified as WN: 1W-2W-E, Segment E2. The testing was performed by the QC technician Tom Pasqualone utilizing a G.E./Krautkramer USM 35. Mr. Pasqualone also utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the repairs. During the testing, the QAI also observed the QC technician performed the required longitudinal wave utilizing a 1" diameter transducer for base metal soundness and a .75 x .75 rectangular transducer to perform the shear wave testing during the testing for weld soundness. The testing was performed on the "A" face (inside) of the weld joint. At the conclusion of the testing, Mr. Pasqualone noted no rejects on the side plate identified as "E". The testing of the side plate "E" the UT was performed from "A" face (inside) and was completed during this shift.

The QAI also observed the Ultrasonic Testing (UT) of four (4) R1 weld repairs on the side plate field splice identified as WN: 1W-2W-C, Segment C2. The testing was performed by the QC technician Tom Pasqualone utilizing a G.E./Krautkramer USM 35. Mr. Pasqualone also utilized the UT Procedure identified as SE-UT-D1.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

5-CT-100 Rev.4 during the examination of the repairs. The QAI also observed the QC technician performed the required longitudinal wave utilizing a 1" diameter transducer for base metal soundness and a .75 x .75 rectangular transducer to perform the shear wave testing during the testing for weld soundness. The testing was performed on the "A" face (inside) of the weld joint. At the conclusion of the testing, Mr. Pasqualone noted no rejects on the side plate identified as "C". The testing of the side plate "C" the UT was performed from "A" face (inside).

Later in the shift, QAI also observed the Ultrasonic Testing (UT) of two (2) R1 weld repairs on the longitudinal stiffener field splices identified as WN: 1W-2W-D, longitudinal stiffeners S2 and S4. The testing was also performed by the QC technician Tom Pasqualone utilizing a G.E./Krautkramer USM 35. Mr. Pasqualone also utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the repairs. The QAI also observed the QC technician performed the required longitudinal wave utilizing a 1" diameter transducer for base metal soundness and a .75 x .75 rectangular transducer to perform the shear wave testing during the testing for weld soundness. The testing was performed on the "A" and "B" faces of the weld joint. At the conclusion of the testing, Mr. Pasqualone noted one (1) reject in each of the stiffener plates.

B). Field Splice W4/W5

The QAI observed the fillet welding of the backing bar to the 14 millimeter deck plate field splice to be utilized during the identified as WN: 4W-5W-A. The welding was performed by the following four (4) welders; Song Tao Huang ID-3794, Jin Quan Huang ID-9340, James Zhen ID-6001 and Chun Fai Tsui ID-3426. The welding was performed utilizing the SMAW process during the welding as per the WPS ABF-WPS-D15-F1200A Rev. 1. The WPS was also used by the QC inspector Bernie Docena as a reference to verify the DCEP welding parameters and the average welding parameters were noted as follows: 128 amps. Later in the shift the QAI observed the QC inspector verify the surface temperatures and appeared to comply with the contract documents were noted as follows: 20 degrees Celsius (preheat temperature) and the maximum interpass temperature of 230 degrees Celsius.

Later in the shift, the QAI observed the QC inspector, Bonifacio Daquinag, Jr. perform a preliminary inspection of the planar alignment of the 20 millimeter deck plate on the field splice identified as WN: 4W-5W-A. The QAI noted three areas marked by the QC inspector that appeared to exceed contract tolerances and were recorded as follows: Segment A1, Y=0mm to 60mm with a misalignment 4.5mm and Y=120mm to 280mm with a misalignment measured at 4mm to 2mm and 950mm to 1200mm with a misalignment measured at 4mm to 5mm to 6mm to 4mm. At Segment A5, Y=27, 205mm to 27,280mm with a misalignment measured at 3mm to 2.5mm. The time of the inspection and verification of this task was 1500 and concluded at 1530. The steel deck temperature at the start of the of the survey was measured at 17 degrees Celsius.

There was also root openings at the backing bar to deck plate connection (no intimate contact) that exceeded the contract document requirement of 2mm which were noted by the QC inspector and recorded as follows; Segment A1, Y=1920mm to 2000mm with a gap measured at 2+mm to 2.5mm, Segment A5, Y=24930mm to 25040mm with a gap measured at 2+mm to 3.5mm and Y=25320mm to 25365 with a gap measured at 2+mm to 2.5mm. Later in the shift the QAI was contacted by Mr. William Levell that the contractor could proceed that welding task as per Pat Lowery.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector's and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The ESAB consumables utilized for the SMAW process appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift was not completed, except as noted, appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs below illustrate the work observed during this scheduled shift.



Summary of Conversations:

There were no pertinent conversations were discussed in regards to the project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

| | | |
|----------------------|--------------|-----------------------------|
| Inspected By: | Reyes, Danny | Quality Assurance Inspector |
| Reviewed By: | Levell, Bill | QA Reviewer |
